

Inspections in general, from someone subject to military inspections for 30 years and Coast Guard inspections for 20; You both want your boat to be as safe as possible! You know your boat but your inspector has much broader training and sees a lot more boats. If you get dinged for something, ask for a regulation reference. Don't be argumentative; You just want documentation on exactly what needs to be done. If it is his opinion but easy to fix say, “Yes Sir, It will be fixed before you leave the boat”. Two heavy bolt military type battery cable connectors may not be required but they are far less likely to come loose. Get to know your inspector, surveyor and auditor. They have a wealth of knowledge and may be able to help prevent unnecessary downtime by spotting a potential problem in advance. If asked something you don't have an answer for **DO NOT GUESS!** Say, “I am not sure but I will find the answer”. That is what those CFR books in the Pilothouse are for and your TSMS if you use that option.

If you are an Owner, Managing Operator, Captain or Mate (Pilot) READ 46 CFR 136 through 144, Subchapter - M THOROUGHLY! If you just need a summary of the new rules read this document.

Under the new Subchapter – M regulations “all U.S.-flag towing vessels 26 feet or more, and those less than 26 feet moving a barge carrying oil or hazardous material in bulk” *must be inspected. The Coast Guard will inspect vessels every five years and issue a new COI. After your initial Certificate Of Inspection you can have the Coast Guard perform annual inspections for approximately \$1,030 each year. Or under the TSMS option, be audited by an approved third party under your approved ” Safety Management System”*: before approval of your TSMS, within six months after COI issue and between 27 & 33 months after the COI. *Have the vessel internally or externally surveyed and audited annually.*

The Coast Guard notes the following short sequence of events associated with the various ways to obtain a COI:
Step 1: As specified in § 136.210, Obtaining or renewing a Certificate of Inspection (COI), the owner or operator must submit a completed CG-3752, Application for Inspection of U.S. Vessel, to the cognizant OCMI. As noted in § 136.130(d), the applicant must specify the option - TSMS or Coast Guard Inspections - when submitting the Application for Inspection.
Step 2: Under § 136.212, the Coast Guard will inspect the vessel at least once every 5 years for certification.
Step 3: As specified in § 136.212(c) of this final rule, the OCMI will issue a vessel a new Certificate of Inspection after the vessel successfully completes the inspection for certification.”

“.....owners or managing operators of towing vessels selecting the TSMS option need to obtain a TSMS certificate at least six months before being able to have any of their vessels certificated.”

SUBCHAPTER M--Towing Vessels

PART 136—CERTIFICATION

A list of approved equipment, including all of the approval series, is available at <http://cgmix.uscg.mil/Equipment/EquipmentSearch.aspx>

Audit means a systematic, independent, and documented examination to determine whether activities and related results comply with a vessel's TSMS, or with another applicable Safety Management System (SMS), and whether these planned arrangements are implemented suitably to achieve stated objectives.

Cold water means water where the monthly mean low water temperature is normally 59° F or less.

Essential system includes: (i) Detection or suppression of fire; (ii) Emergency dewatering or ballast management; (iii) Navigation; (iv) Internal and external communication; (v) Vessel control, including propulsion, steering, maneuverability and their vital auxiliaries; (vi) Emergency evacuation and abandonment; (vii) Lifesaving; and (viii) Control of a tow

Excepted vessel means a towing vessel that is subject to this subchapter but is excepted from certain provisions contained within this subchapter. An excepted vessel is: (1) Used solely: (i) Within a limited geographic area, as

46 CFR SUBCHAPTER – M “**Inspection of Towing Vessels**”, **Rivers summary** defined in this section; (ii) For harbor-assist, as defined in this section; or (iii) For response to an emergency or a pollution event; or Excepted by the cognizant OCMI.

Major conversion means, (3) Substantially prolongs the life of the vessel (*Repowering has not been defined.*); Major non-conformity means one that poses a serious threat to personnel, vessel safety, or the environment, and requires immediate corrective action.

New towing vessel means a towing vessel that: (1) Had its keel laid or was at a similar stage of construction on or after July 20, 2017; (2) Underwent a major conversion that was initiated on or after July 20, 2017.

Power and lighting circuit means a branch circuit that serves any essential system (*see above*), distribution panel, lighting, motor or motor group, or group of receptacles.

Rescue boat means a boat designed to rescue persons in distress and to marshal survival craft.

Safety Management System or SMS means a structured and documented system that enables personnel involved in vessel operations or management, as identified in the SMS, to effectively implement the safety and environmental protection requirements, and is routinely exercised and audited.

Third-party organization or TPO means an organization approved by the Coast Guard to conduct independent verifications to assess whether towing vessels or their TSMSs comply with applicable requirements.

Towing Safety Management System or TSMS means an SMS for a towing vessel as described in part 138.

Towing vessel record or TVR means a book, notebook, or electronic record used to document events.

Workboat means a vessel that pushes, pulls, or hauls alongside within a worksite.

Worksite means an area specified by the cognizant OCMI within which workboats are operated over short distances for moving equipment in support of dredging, construction, maintenance, or repair work.

§ 136.200 Certificate required. (a) A towing vessel may not be operated without having onboard a valid COI issued by the Coast Guard as required by § 136.202.

§ 136.202 Certificate of Inspection phase-in period.

(a) All owners or managing operators of more than one existing towing vessel must ensure that each existing towing vessel is issued a valid COI according to the following schedule:

- (1) By July 22, 2019, at least 25 percent of the towing vessels must have valid COIs on board;
- (2) By July 20, 2020, at least 50 percent of the towing vessels must have valid COIs on board;
- (3) By July 19, 2021, at least 75 percent of the towing vessels must have valid COIs on board; and
- (4) By July 19, 2022, 100 percent of the towing vessels must have valid COIs on board.

(b) All owners or managing operators of only one existing towing vessel must ensure the vessel has an onboard, valid COI by July 20, 2020.

(c) A new towing vessel must obtain a COI before it enters into service.

§ 136.205 A towing vessel’s COI describes the vessel, routes that it may travel, minimum manning requirements and total persons allowed onboard, safety equipment and appliances required to be onboard, horsepower, and other information pertinent to the vessel’s operation.

§ 136.210 Owners and managing operators must submit Form CG- 3752, “Application for Inspection of U.S. Vessel,” to the cognizant OCMI where the inspection will take place at least 30 days before the vessel will undergo the initial inspection for certification. The owner or managing operator must submit the application certification with the cognizant OCMI at least 3 months before the vessel is to undergo the inspection for certification.

(a) The owner or managing operator must submit:

- (1) For initial certification: (i) Vessel particular information; and
- (ii) Number of persons in addition to the crew, if requested; or
- (2) For a renewal of certification: (i) Any changes to the information in paragraph (a)(1); and (ii) A description of any modifications to the vessel.

(b) The owner or managing operator of vessels utilizing the TSMS option must submit:

- (1) Objective evidence that the owner or managing operator and the vessel are in compliance with the TSMS requirements in part 138; and
- (2) Objective evidence that the vessel’s structure, stability, and essential systems comply with the applicable requirements for the intended route and service.

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§ 136.212 (a) After a towing vessel receives its initial COI, the OCMI will inspect a towing vessel at least once every 5 years.

§ 136.220 Posting. (a) The original COI must be framed under glass or other transparent material and posted in a conspicuous place onboard the towing vessel.

§ 136.240 Permission to proceed to another port for repairs (Form CG-948) may be required for a towing vessel that is no longer in compliance with its COI.

§ 136.245 (a) A towing vessel must obtain approval to engage in an excursion prior to carrying a greater number of persons than permitted by the COI, or to temporarily extend or alter its area of operation.

PART 137--VESSEL COMPLIANCE

Subpart A - General

137.100 Purpose.

137.120 Responsibility for compliance.

137.130 Program for vessel compliance for the Towing Safety Management System (TSMS) option. The owner or managing operator of a towing vessel, choosing to use the TSMS option, must implement an external or internal survey program for vessel compliance. The program for vessel compliance can be either:

(a) An external survey program, in which the owner or managing operator would have a third-party organization (TPO) conduct either the surveys required by § 137.205, the examinations required by § 137.310, or both; or

(b) An internal survey program, in which the owner or managing operator would conduct either the surveys required by § 137.210, the examinations required by § 137.315, or both, using internal resources or contracted surveyors. The internal survey program would be conducted with the oversight of a TPO.

137.135 Reports and documentation required for the TSMS option.

(9) A descriptive list of the items examined or witnessed during each survey;

Subpart B - Inspections and Surveys for Certification

137.200 Documenting compliance for the Coast Guard inspection option.

137.202 Documenting compliance for the TSMS option.

The owner or managing operator of a towing vessel that chooses the TSMS option for a towing vessel must document compliance with this subpart as follows:

(a) Prior to obtaining the vessel's initial COI, the owner or managing operator must provide a report to the Coast Guard of a survey as described in § 137.215 that demonstrates that the vessel complies the requirements.

137.205 External survey program.

(1) Have the vessel surveyed annually by a surveyor from a TPO;

(3) Ensure the survey is conducted within 3 months of the anniversary date of the COI;

137.210 Internal survey program.

(2) Equipment, systems, and onboard procedures to be surveyed;

(3) Identification of items that would need repair or replacement before the vessel could continue in service, including on Form CG-835, noted survey deficiencies, non-conformities, or other corrective action reports;

(4) Procedures for documenting and reporting nonconformities and deficiencies;

(5) Procedures for reporting and correcting major non-conformities;

(6) The responsible person or persons in management who have the authority to:

(i) Stop all vessel operations pending the correction of non-conformities and deficiencies;

(ii) Oversee vessel compliance activities; and

(iii) Track and verify that non-conformities and deficiencies were corrected;

(7) Procedures for recordkeeping; and

(8) Procedures for assigning personnel with requisite experience and expertise to carry out the survey.

137.212 Coast Guard oversight of vessel survey program for vessels under the TSMS option.

137.215 General conduct of survey.

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137.220 Scope.

(c) Machinery, fuel, and piping systems, (6) Means provided for pumping bilges; (7) Machinery shut-downs and alarms; (d) Steering systems; (2) Auxiliary means of steering, if installed; (3) Alarms; (e) Pressure vessels and boilers; (f) Electrical; (6) Electrical equipment, which operates as part of or in conjunction with a fire detection or alarm system installed onboard, to ensure operation in case of fire; (g) Lifesaving; (9) Verify that the vessel's crew conducted abandon ship and man overboard drills under simulated emergency conditions.

Subpart C—Drydock and Internal Structural Surveys

137.300 Intervals for drydock and internal structural examinations.

(2) A vessel that is exposed to salt water not more than 6 months in any 12-month period since the last examination must undergo a drydock and internal structural examination at least once every 5 years.

137.302 Documenting compliance for the Coast Guard inspection option.

137.305 Documenting compliance for the TSMS option.

137.310 External survey program.

137.315 Internal survey program.

(d) The owner or managing operator must notify the cognizant OCMI of the zone within which activities related to credit drydocking or internal structural examinations are to be carried out prior to commencing the activities.

137.317 Coast Guard oversight of drydock and internal structural examination program for vessels under the TSMS option.

137.320 Vessels holding a valid load line certificate.

137.322 Classed vessels.

137.325 General conduct of examination.

137.330 Scope of the drydock examination.

(6) Open and examine all sea chests, through-hull fittings, and strainers for damage, deterioration, or fouling

137.335 Underwater survey in lieu of drydocking.

(2) During the vessel's drydock examination preceding the underwater survey, a complete set of hull gauging was taken which indicated that the vessel was free from hull deterioration.

PART 138--TOWING SAFETY MANAGEMENT SYSTEM (TSMS)

Subpart A—General

138.100 Purpose.

138.115 Compliance.

Subpart B—Towing Safety Management System (TSMS)

138.205 Purpose of a TSMS.

(4) Arrangements for a periodic evaluation by an independent third-party organization (TPO) to determine how well an owner or managing operator and their towing vessels are complying with their stated policies and procedures, and to verify that those policies and procedures comply with the requirements of this subchapter;

138.210 Objectives of a TSMS.

(d) Provide a process and criteria for selection of third parties. Procedures for selection of TPOs must exist that include how third parties are evaluated, including selection criteria.

138.215 Functional requirements of a TSMS.

The functional requirements of a TSMS include:

(a) Policies and procedures to provide direction for the safe operation of towing vessels and protection of the marine environment in compliance with applicable U.S. law,

(b) Defined levels of authority and lines of communication between shoreside and vessel personnel;

(c) Procedures for reporting accidents and nonconformities;

(d) Procedures to prepare for and respond to emergency situations by shoreside and vessel personnel;

(e) Procedures for verification of vessel compliance with this subchapter;

(f) Procedures for internal auditing of the TSMS, including shoreside and vessel operations;

(g) Procedures for external audits;

(h) Procedures for management review of internal and external audit reports and correction of non-conformities;

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(i) Procedures to evaluate recommendations made by management and other personnel.

138.220 TSMS elements.

(ii) Each owner or managing operator must designate in writing the shoreside person(s) responsible for ensuring the TSMS is implemented and continuously functions throughout management and the fleet. They must also designate the shoreside person(s) responsible for ensuring that the vessels are properly maintained and in operable condition, including those responsible for emergency assistance to each towing vessel.

138.225 Existing safety management systems (SMSs).

(c) An owner or managing operator who seeks to meet TSMS requirements using provisions in paragraph (a) or (b) of this section must submit documentation to the Coast Guard based on the initial audit and one full audit cycle of at least 3 years.

Subpart C—Documenting Compliance

138.305 TSMS certificate.

(b) A TSMS certificate is valid for 5 years from the date of issue, unless suspended, revoked or rescinded as provided in paragraphs (d) and (e).

(f) A copy of the TSMS certificate must be maintained on each towing vessel that is covered by the TSMS certificate and on file at the owner or managing operator's shoreside office.

138.310 Internal audits for a TSMS certificate.

138.315 External audits for a TSMS certificate.

(a) (1) Prior to the issuance of an owner or managing operator's initial TSMS certificate, or subsequent renewals, an external management audit must be conducted by an auditor from a TPO.

(b) (1) An external audit must be conducted prior to the issuance of the initial COI for vessels subject to an owner or managing operator's TSMS that have been owned or operated for 6 or more months prior to receiving the initial COI.

(2) An external audit must be conducted no later than 6 months after the issuance of the initial COI for vessels subject to the owner or managing operator's TSMS that have been owned or operated for fewer than 6 months prior to receiving the initial COI.

(3) An external audit of all vessels covered by a TSMS certificate must be conducted during the 5-year period of validity of the TSMS certificate. The vessels must be selected randomly and distributed as evenly as possible.

Subpart D—Audits

138.400 General.

138.405 Conduct of internal audits.

138.410 Conduct of external audits.

(c) The auditor must be provided access to examine any requested documentation, question personnel, examine vessel equipment, witness system testing, and observe personnel training, including drills, to verify TSMS.

Subpart E—Coast Guard or Organizational Oversight and Review

138.500 Notification prior to audit.

(a) The owner or managing operator of a towing vessel must notify the local OCMI at least 72 hours prior to an external audit being conducted under this part.

138.505 Submittal of external audit results.

(a) The results of an external management audit as required by § 138.315 must be submitted to the Towing Vessel National Center of Expertise (b) to the cognizant OCMI within 30 days of audit completion by the TPO.

138.510 Required attendance.

PART 139--THIRD-PARTY ORGANIZATIONS

Subpart A—General

PART 140—OPERATIONS

140.100 Purpose.

140.105 Applicability and delayed implementation for existing vessels.

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(a) With the exception § 140.500, which has a later implementation date, an existing towing vessel must comply with the requirements in this part no later than either July 20, 2018 or the date the vessel obtains a Certificate of Inspection (COI), whichever date is earlier.

Subpart B—General Operational Safety

140.205 General vessel operation.

(c) Vessels must be manned in accordance with the COI. Manning requirements are contained in part 15.

140.210 Responsibilities of the master and crew.

Subpart C—[Reserved]

Subpart D—Crew Safety

140.400 Personnel records.

(b) The master must keep an accurate list of individuals to be carried as additional persons or passengers.

(c) The date and time that a navigation watchstander, including master, officer in charge of a navigational watch, and lookout assumes a watch and is relieved of a watch must be recorded in the towing vessel record (TVR), official logbook, or in accordance with the TSMS applicable to the vessel. If an engineering watch is maintained, comparable records documenting the engineering watch are required.

140.405 Emergency duties and duty stations.

(c) The emergency duties and duty stations must be posted at each operating station and in a conspicuous location in a space visited by crewmembers. *This is commonly called a Station Bill on passenger vessels.*

140.410 Safety orientation.

(b) Prior to getting underway for the first time on a particular towing vessel, each crewmember must receive a safety orientation.

(d) Safety orientations and other crew training must be documented in the TVR, official logbook, or in accordance with the TSMS applicable to the vessel.

140.415 Orientation for individuals that are not crewmembers.

140.420 Emergency drills and instruction.

(c) Unless otherwise stated, each crewmember must receive the instruction required by this section annually.

(g) Records of drills and instruction must be maintained in the TVR, official logbook, or in accordance with the TSMS applicable to the vessel.

140.425 Fall overboard prevention.

140.430 Wearing of work vests.

(a) Personnel dispatched from the vessel or that are working in an area on the exterior of the vessel without rails and guards must wear..... or a work vest approved by the Commandant under 46 CFR subpart 160.053. When worn at night, the work vest must be equipped with a light that meets the requirements of 46CFR141.340(g)(1).

140.435 First aid equipment.

Each towing vessel must be equipped with an industrial type first aid cabinet or kit, appropriate to the size of the crew and operating conditions. *Make sure there are no expired medications in the kit.*

Subpart E—Safety and Health

140.500 General.

140.505 General health and safety requirements.

(a) The owner or managing operator must implement procedures for reporting unsafe conditions and must have records of the activities conducted under this section.

(d) (1) Appropriate Personal Protective Equipment (PPE) must be made available and on hand for all personnel engaged in an activity that requires the use of PPE.

140.510 Identification and mitigation of health and safety hazards.

(5) Confined space entry; (6) Blood-borne pathogens; (13) Sanitation & safe food handling;

140.515 Training requirements.

(a) All crewmembers must be provided with health and safety information and training including: (1) Content and procedures of the owner or managing operator’s health and safety plan; (9) Lockout/Tagout procedures.

(c) Crewmember training required by this section must be conducted as soon as practicable, but not later than 5 days after employment. And (d) Refresher training must be repeated annually

(f) All training required in this section must be documented in owner or managing operator’s records.

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Subpart F-Vessel Operational Safety

140.600 Applicability.

140.605 Vessel stability.

(a) Prior to getting underway, and at all other times necessary to ensure the safety of the vessel, the master or officer in charge of a navigational watch must determine whether the vessel complies with all stability requirements in the vessel's trim and stability book, stability letter, COI, and/or Load Line Certificate.

140.610 Hatches and other openings.

(c) The master or officer in charge of a navigational watch must ensure all hatches and openings of the hull and deck are kept tightly closed except: (2) When operating on rivers with a tow, if the master determines the safety of the vessel is not compromised; or (3) When operating on lakes, bays, and sounds, without a tow during calm weather, and if the master determines that the safety of the vessel is not compromised.

(e) When downstreaming, all exterior openings at the main deck level must be closed.

140.615 Examinations and tests.

(b) Prior to getting underway, the master or officer in charge of a navigational watch must examine and test the steering gear, signaling whistle, propulsion control, towing gear, navigation lights, navigation equipment, and communication systems. This examination and testing does not need to be conducted more than once in 24 hrs.

(c) The results of the examination and testing must be recorded in the TVR, official logbook, or in accordance with the TSMS applicable to the vessel.

140.620 Navigational safety equipment.

(c) Navigational safety equipment such as radar, gyrocompass, echo depth-sounding or other sounding device, automatic dependent surveillance equipment, or navigational lighting that fails during a voyage must be repaired at the earliest practicable time.

(d) The failure and subsequent repair or replacement of navigational safety equipment must be recorded. The record must be made in the TVR, official logbook, or in accordance with the TSMS applicable to the vessel.

140.625 Navigation underway.

140.630 Lookout.

A lookout in addition to the master or mate (pilot) should be added when necessary

140.635 Navigation assessment.

(6) Air draft relative to bridges and overhead obstructions taking tide and river stage into consideration; (7) Horizontal clearance, to include bridge transits; (10) Any broadcast notice to mariners, safety or security zones or special navigation areas;

At each change of the navigational watch, the oncoming officer in charge of the navigational watch must review the current navigation assessment for necessary changes.

(d) A navigation assessment entry must be recorded in the TVR, official log, or in accordance with the TSMS applicable to the vessel.

140.640 Pilothouse resource management.

140.645 Navigation safety training.

(b) Crewmember training must be recorded in the TVR, official logbook, or in accordance with the TSMS applicable to the vessel. (c) Credentialed mariners holding Able Seaman or officer endorsements will be deemed to have met the training requirements in this section.

140.650 Operational readiness of lifesaving and fire suppression and detection equipment.

140.655 Prevention

(c) No person may intentionally drain oil or hazardous material into the bilge of a towing vessel.

140.660 Vessel security.

Each towing vessel must be operated in compliance with: (a) The Maritime Transportation Security Act of 2002 (46 U.S.C. Chapter 701); and (b) 33 CFR parts 101 and 104, as applicable.

140.665 Inspection and testing required when making alterations, repairs, or other such operations involving riveting, welding, burning, or like fire producing actions.

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Required near: cargo tanks; fuel tanks; to pipe lines, heating coils, pumps, fittings, or other appurtenances connected to such cargo or fuel tanks

(1) In ports or places in the United States or its territories and possessions the inspection must be made by a marine chemist certificated by the National Fire Protection Association. A certificate setting forth the fact in writing and qualified as may be required, must be issued by the certified marine chemist or the authorized person before the work is started.

140.670 Use of auto pilot.

Subpart G—Navigation and Communication Equipment

140.700 Applicability.

140.705 Charts and nautical publications.

(b) A towing vessel must carry adequate and up-to-date charts, maps, and nautical publications for the intended voyage, including:

(1) Charts, including electronic charts acceptable to the Coast Guard, of appropriate scale to make safe navigation possible. Towing vessels operating on the Western Rivers must have maps of appropriate scale issued by the Army Corps of Engineers or a river authority;

(2) "U.S. Coast Pilot" or similar publication; (3) Coast Guard light list; and

(4) Towing vessels that operate the Western Rivers must have river stage(s) or Water Surface Elevations as appropriate to the trip or route, as published by the U.S. Army Corps of Engineers or a river authority, must be available to the person in charge of the navigation watch.

140.710 Marine radar.

Must have approved marine radar.

140.715 Communications equipment.

(b) Towing vessels must have a VHF-FM radio installed and capable of monitoring Channels 13 and 16, except when transmitting or receiving traffic on other channels, when participating in a Vessel Traffic Service (VTS), or when monitoring a channel of a VTS. The radio(s) must be installed at each operating station and connected to a functioning battery backup.

140.720 Navigation lights, shapes, and sound signals.

See COLREGS, 33 CFR part 84

140.725 Additional navigation equipment.

(a) Fathometer (except Western Rivers).

(b) Search light, controllable from the vessel's operating station and capable of illuminating objects at a distance of at least two times the length of the tow.

(c) Electronic position-fixing device, satisfactory for the area in which the vessel operates, if the towing vessel engages in towing seaward of the navigable waters of the U.S. or more than 3 nautical miles from shore on the Great Lakes.

(d) Illuminated magnetic compass or an illuminated swing-meter (Western Rivers vessels only). The compass or swing-meter must be readable from each operating station.

Towing vessels of 26 feet or more in length and more than 600 horsepower, in commercial service must have AIS;

Subpart H—Towing Safety

140.800 Applicability.

140.801 Towing gear.

140.805 Towing safety.

Prior to getting underway the officer in charge of the navigational watch must ensure that:

(a) The barges, vessels, or objects making up the tow are properly configured and secured;

(c) The towing vessel is safely and securely made up to the tow; and

(d) The towing vessel has appropriate horsepower or bollard pull and is capable of safely maneuvering the tow.

140.820 Recordkeeping for towing gear.

(a) The results of the inspections required by 33 CFR 164.76 must be documented in the TVR, official logbook, or in accordance with the TSMS applicable to the vessel.

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(b) A record of the type, size, and service of each towline, face wire, and spring line, used to make the towing vessel fast to her tow, must be available to the Coast Guard or third-party auditor for review.

Subpart I—Vessel Records

140.900 Marine casualty reporting.

140.905 Official logbooks.

140.910 Towing vessel record or record specified by TSMS.

(b) A towing vessel must maintain a TVR or in accordance with the TSMS applicable to the towing vessel.

(c) The TVR must include a chronological record of events as required by this subchapter.

140.915 Items to be recorded.

Subpart J—Penalties

140.1000 Statutory penalties.

140.1005 Suspension and revocation.

140.1005 Suspension and revocation.

PART 141—LIFESAVING

Subpart A—General

141.100 Purpose.

141.105 Applicability and delayed implementation for existing vessels.

Subpart B—General requirements for towing vessels

141.200 General provisions.

141.225 Alternate arrangements or equipment.

141.230 Readiness.

141.235 Inspection, testing, and maintenance.

(a) All lifesaving equipment must be tested and maintained in accordance with the minimum requirements of § 199.190 of this chapter, as applicable, and the vessel's TSMS, if the vessel has a TSMS.

(b) Inspections and tests of lifesaving equipment must be recorded in the TVR, official logbook, or in accordance with any TSMS. The minimum information is required: 141.240 Requirements for training crews.

Subpart C—Lifesaving Requirements for Towing Vessels

141.305 Survival craft requirements for towing vessels.

For rivers routs Inflatable Buoyant Apparatus (160.010) or a skiff to accommodate and protect all aboard.

Each towing vessel that operates solely on rivers need not carry survival craft if: (i) It carries a 406 MHz Cat 1 EPIRB meeting 47 CFR part 80; (ii) It is designed for pushing ahead and has a TSMS that contains procedures for evacuating crewmembers onto the tow or other safe location; or (iii) It operates within 1 mile of shore.

141.310 Stowage of survival craft.

141.315 Marking of survival craft and stowage locations.

141.320 Inflatable survival craft placards.

141.325 Survival craft equipment.

141.330 Skiffs as survival craft.

A skiff may be substituted for all or part of the approved survival craft for towing vessels that do not operate more than 3 miles from shore.

141.340 Lifejackets.

(a) Each towing vessel must carry at least one appropriately-sized lifejacket, approved under approval series 160.002, 160.005, 160.055, 160.155, or 160.176, for each person on board.

(f) Each lifejacket must be marked: (1) In block capital letters with the name of the vessel; and (1) must have a lifejacket light approved under approval series 161.012 or 161.112 securely attached to the front shoulder area of the lifejacket. (2) must have a whistle firmly secured by a cord to the lifejacket.

141.350 Immersion suits.

141.360 Lifebuoys.

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Lifebuoys (*ring buoys*), < 26' one 20-inch, 26' to 79' two 24", > 79' four 24"; at least one w/60' buoyant line;
at least two w/floating water light unless daylight only operation,

141.370 Miscellaneous lifesaving requirements for towing vessels.

Visual Distress Signals (§ 141.375) rivers 3 day and 3 night. *Flares satisfy both requirements.*

141.375 Visual distress signals.

141.380 Emergency position indicating radio beacon (EPIRB).

141.385 Line throwing appliance.

PART 142--FIRE PROTECTION

142.100 Purpose.

142.105 Applicability and delayed implementation for existing vessels.

Subpart B--General Requirements for Towing Vessels

142.205 Alternate standards.

142.210 Alternate arrangements or equipment.

142.215 Approved equipment.

142.220 Fire hazards to be minimized.

142.225 Storage of flammable or combustible products.

(a) Paints, coatings, or other flammable or combustible products onboard a towing vessel must be stored in a designated storage room or cabinet when not in use.

142.226 Firefighter's outfit.

142.227 Fire axe.

Each towing vessel must be equipped with at least one fire axe that is readily accessible for use from the exterior of the vessel.

142.230 Hand-portable fire extinguishers and semi-portable fire-extinguishing systems.

< 26' one B-I, 26' to 40' two B-I & 1 fixed, 40' to 65' three B-I & two fixed in machinery space plus 0 to 50 GRT one B-II, 50 to 100 GRT two B-II, 100 to 500 three B-II, 500 to 1,000 GRT six B-II and > 1,000 GRT eight B-II. (i) In addition to the hand-portable extinguishers one Type B-II hand-portable fire extinguisher must be fitted in the engine room for each 1,000 brake horsepower of the main engines or fraction thereof.

142.235 Vessels contracted for prior to November 19, 1952.

Grandfathered as long as equipment is operational.

142.240 Inspection, testing, maintenance, and records.

Must be inspected or tested at least once every 12 months, *Need to be tagged by an approved company.*

(6) The fire main system must be charged, and sufficient pressure must be verified at the most remote and highest outlets.

(7) All fire hoses must be inspected for excessive wear, and subjected to a test pressure equivalent to the maximum service pressure. All fire hoses which are defective and incapable of repair must be destroyed.

(c) (1) The records of inspections and tests of fire-detection systems and fixed fire extinguishing systems must be recorded in the TVR, official logbook, or in accordance with any TSMS applicable to the vessel.

142.245 Requirements for training crews to respond to fires.

(a) The master of a towing vessel must ensure that each crewmember participates in fire-fighting drills and receives instruction at least once each month. *Note requirement for monthly training.*

(iii) Operate the fuel shut-off(s) for the engine room.

(a) Receives a safety orientation within 24 hours of reporting for duty.

Subpart C--Fire Extinguishing and Detection Requirements

142.300 Excepted vessels.

142.315 Additional fire-extinguishing equipment requirements.

(i) An approved B-V semi-portable fire-extinguishing system to protect the engine room; or (ii) A fixed fire-extinguishing system installed to protect the engine room.

142.325 Fire pumps, fire mains, and fire hoses.

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Each towing vessel must have either a self-priming, power-driven, fixed fire pump, a fire main, and hoses and nozzles in accordance with paragraphs (a) through (d) of this section; or a portable pump.

(1) Delivering water simultaneously from the two highest hydrants, at a pitot-tube pressure of at least 50 pounds psi, and a flow rate of at least 80 gpm

(d) The hose must be a lined commercial fire hose 50 feet, 1.5 inches, and fitted with a nozzle made of corrosion-resistant material capable of providing a solid stream or a spray pattern.

142.330 Fire-detection system requirements.

(a) Except as provided in paragraph (a)(8) of this section, each towing vessel must have a fire-detection system installed to detect engine room fires.

(1) Each detector, control panel, remote indicator panel, and fire alarm are approved by the Commandant under approval series 161.002 . *Numerous unapproved systems were found during the "Bridging, Voluntary inspection" program. Check yours carefully!*

(5) The system draws power from two sources.

(7) The design of the system and its installation on the towing vessel is certified and inspected by a registered professional engineer with experience in fire detection system design, by a technician with qualifications as a National Institute for Certification in Engineering Technologies (NICET) level IV fire alarm engineering technician, or by an authorized classification society with equivalent experience, to comply with paragraphs

(a)(1) through (6) of this section.

(b) Each towing vessel must be equipped with a means to detect smoke in the berthing spaces and lounges that alerts individuals in those spaces.

(c) Each new towing vessel equipped with a galley must have a heat-detection system with one or more restorable heat-sensing detectors to detect fires in the galley. *But is a very good idea on older vessels.*

(8) A towing vessel whose construction was contracted for prior to January 18, 2000, may use an existing engine room monitoring system (with fire-detection capability) instead of a fire-detection system, if the monitoring system is operable and complies with paragraphs (a)(2) through (7) of this section, and uses detectors listed by an NRTL.

PART 143--MACHINERY AND ELECTRICAL SYSTEMS AND EQUIPMENT

Subpart A-General

143.100 Purpose.

143.105 Applicability.

143.115 Definitions.

Subpart B-Requirements for All Towing Vessels

143.200 Applicability.

(c) Existing vessels must meet the pilothouse alerter and towing machinery requirements of §§ 143.450 and 143.460 no later than 5 years after the issuance of the first COI for the vessel.

143.205 General.

143.210 Alternate design or operational considerations.

143.215 Existing vessels built to class.

143.220 Machinery space fire prevention.

(b) Piping and machinery components that exceed 220 °C (428 °F), including fittings, flanges, valves, exhaust manifolds, and turbochargers, must be insulated.

143.225 Control and monitoring requirements.

(a) Each towing vessel must have a means to monitor and control the amount of thrust, rudder angle, and (if applicable) direction of thrust, at each operating station. *Thrust can be engine or shaft RPM, etc.*

(b) Each towing vessel equipped with rudder(s) must have a means to monitor and control the position of the rudder(s) at each operating station.

143.230 Alarms and monitoring.

The following alarms must be provided: (1) Main engine(s) low lubricating oil pressure; (2) and high cooling water temperature; (3) Auxiliary generator engine(s) low lubricating oil pressure; (4) and high cooling water

46 CFR SUBCHAPTER - M "Inspection of Towing Vessels", Rivers summary temperature; (5) High bilge levels; (6) Low hydraulic steering fluid levels, if applicable; and (7) Low fuel level, if fitted with a day tank.

(c) The following systems must be equipped with gauges at the machinery location: (1) Main engine lubricating oil pressure and RPM; (2) and cooling water temperature; (3) Auxiliary generator engine lubricating oil pressure and engine RPM; (4) and cooling water temperature; and (5) Hydraulic steering fluid pressure, if the vessel is equipped with hydraulic steering systems.

143.235 General alarms.

(b) Each towing vessel must be fitted with a general alarm that:

- (1) Is activated at each operating station and can notify persons onboard in the event of an emergency;
- (2) Is capable of notifying persons in any accommodation, work space, and the engine room;
- (3) Has installed, in the engine room and any other area where background noise makes a general alarm hard to hear, a supplemental flashing red light that is identified with a sign that reads: "Attention General Alarm—When Alarm Sounds or Flashes Go to Your Station"; and
- (4) A public-address (PA) system or other means of alerting all persons on the towing vessel may be used in lieu of the general alarm in paragraph (b) of this section.

143.240 Communication requirements.

(b) Vessel must be fitted with a communication system between the pilothouse and the engine room that:

- (1) Consists of either fixed or portable equipment, such as a sound-powered telephone, portable radios, or other reliable method of voice communication, with a main or reserve power supply that is independent of the towing vessel's electrical system; and
- (2) Provides two-way voice communication and calling between the pilothouse and either the engine room or a location immediately adjacent to an exit from the engine room.

(c) Towing vessels with more than one propulsion unit and independent pilothouse control for all engines are not required to have internal communication systems.

143.245 Readiness and testing.

(b) Each towing vessel must perform the applicable tests in Table 143.245(b) of this section. The tests required by this section must be recorded in accordance with part 140 of this subchapter.

Table 143.245(b) Required tests and frequency

<u>Tests of:</u>	<u>Frequency:</u>
Propulsion controls; ahead and astern at the operating station.	Before the vessel gets underway, but no more than once in any 24 hour period.
Steering controls at the operating station.	Before the vessel gets underway, but no more than once in any 24 hour period.
Pilothouse alerter system.	Weekly.
All alternate steering and propulsion controls.	At least once every 3 months.
Power supply for alarm actuation circuits for alarms required by § 143.230.	At least once every 3 months.
Communications required by § 143.240.	Weekly.
General alarm if the vessel is so equipped.	Weekly.

Emergency lighting and power if the vessel is so equipped.	At least once every 3 months.
Charge of storage batteries if the vessel is so equipped, for emergency lighting and power.	At least once every 3 months.
Alarm setpoints.	Twice every 5 years, with no more than 3 years elapsing since last test.
Pressure vessel relief valves.	Twice every 5 years, with no more than 3 years elapsing since last test.
All other essential systems.	At least once every 3 months.
143.250 System isolation and markings.	
(b) <u>Electrical panels or other enclosures containing more than one source of power must be fitted with a sign warning persons of this condition and identifying where to secure all sources.</u>	
(c) Piping for flammable or combustible liquid, river water cooling, or firefighting systems must be fitted with isolation valves that are clearly marked by labeling or color coding that enables the crew to identify its function.	
(d) <u>Any piping system that penetrates the hull below the waterline must be fitted with an accessible valve, located as close to the hull penetration as is practicable, for preventing the accidental admission of water into the vessel either through such pipes or in the event of a fracture of such pipe.</u>	
143.255 Fuel system requirements.	
143.260 Fuel shutoff requirements.	
(b) <i>To stop the flow of fuel in the event of a fire or break in the fuel line, a remote fuel shutoff valve must be fitted on any fuel line that supplies fuel directly to a propulsion engine or generator prime mover.</i>	
(c) The valve must be installed in the fuel piping directly outside of the fuel oil supply tank.	
(d) The valve must be operable from a safe place outside the space where the valve is installed.	
(e) Each remote valve control must be marked in clearly legible letters, at least 1 inch high, indicating the purpose of the valve and the way to operate it.	
143.265 Additional fuel system requirements for towing vessels built after January 18, 2000.	
(2) Nonmetallic flexible hose is acceptable if it: (i) Is used in lengths of <u>not more than 30 inches</u> ; (iv) Is fabricated with an inner tube and a cover of synthetic rubber or other suitable material reinforced with wire braid; or (3) <i>Nonmetallic flexible hose complying with SAE J1942 Revised is acceptable.</i>	
143.270 Piping systems and tanks.	
143.275 Bilge pumps or other dewatering capability.	
143.300 Pressure vessels.	
(b) Pressure vessels must be externally examined annually. Relief valves must be tested twice in 5 years	
143.400 Electrical systems, general.	
(d) <u>Individual circuit breakers on switchboards and distribution panels must be labeled with a description of the loads they serve.</u>	
143.410 Shipboard lighting.	
(b) Emergency lighting must be provided for all internal crew working and living areas. Emergency lighting sources must provide for sufficient illumination under emergency conditions to facilitate egress from each space and must be either:	
(1) Automatic, battery-operated with a duration of no less than 2 hours; or	
(2) Non-electric, phosphorescent adhesive lighting strips that are installed along escape routes and sufficiently visible to enable egress with no power.	
(c) Each towing vessel must be equipped with at least two portable, battery-powered lights. One must be located in the pilothouse and the other at the access to the engine room.	

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143.415 Navigation lights.

143.450 Pilothouse alerter system.

(a) A towing vessel > 65' and with one person in the pilothouse, with overnight accommodations and alternating watches (shift work), when pulling, pushing or hauling alongside one or more barges, must have a system to detect when its master or mate (pilot) becomes incapacitated. The system must:

(1) Have an alarm in the pilothouse distinct from any other alarm;

(2) Require action from the master or officer in charge of a navigational watch, during an interval not to exceed 10 minutes, in order to reset the alarm timer; and

(3) Immediately (within 30 seconds) notify another crewmember if the pilothouse alarm is not acknowledged.

(b) The time interval for the system alarm must be adjustable. The time may be adjusted by the owner or managing operator but must not be in excess of 10 minutes.

143.460 Towing machinery.

(b) Towing machinery for towing astern must have sufficient safeguards, e.g., towing bitt with crossbar, to prevent the machinery from becoming disabled in the event the tow becomes out of line.

(e) Each owner or managing operator must develop procedures to routinely examine, maintain, and replace capstans, winches, and other machinery used to connect the towing vessel to the tow.

Subpart C—Requirements for New Towing Vessels

143.500 Applicability.

143.510 Verification of compliance with design standards.

143.515 Towing vessels built to recognized classification society rules.

143.520 Towing vessels built to American Boat and Yacht Council standards.

(a) Except as noted in paragraphs (b) and (c) of this section, a new towing vessel 65 feet or less in length built to conform with the American Boat and Yacht Council (ABYC) standards listed in this paragraph (a)

(incorporated by reference, see § 136.112 of this subchapter), complies with this subpart:

(1) E-11 (2003) - AC & DC Electrical Systems on Boats; (2) H-2 (2002) - Ventilation of Boats Using Gasoline;

(2) H-22 (2005) - Electric Bilge Pump Systems; (3) H-24 (2007) - Gasoline Fuel Systems;

(4) H-25 (2003) - Portable Gasoline Fuel Systems; (5) H-32 (2004) - Ventilation of Boats Using Diesel

Fuel; (6) H-33 (2005) - Diesel Fuel Systems; (7) P-1 (2002) - Installation of Exhaust Systems for Propulsion and Auxiliary Engines; and (8) P-4 (2004) - Marine Inboard Engines and Transmissions

(b) New towing vessels, 65 feet or less in length, built to the ABYC standards specified in this section are considered compliant with subpart B of this part except for the readiness and testing requirements of § 143.245.

(c) If the vessel moves tank barges carrying oil or hazardous material in bulk, it must meet either the requirements described in §§ 143.585 through 143.595 or the requirements described in § 143.600.

143.540 Pumps, pipes, valves, and fittings for essential systems.

143.545 Pressure vessels.

143.550 Steering systems.

143.555 Electrical power sources, generators, and motors.

(3) A towing vessel, other than an excepted vessel, must have a backup or a second power source that has adequate capacity to supply power to essential alarms, lighting, radios, navigation equipment, and any other essential system identified by the cognizant OCMI or a TPO.

(b) (1) The owner or managing operator must complete a load analysis that shows the electrical power source is sufficient to power the sum of connected loads described in paragraph (a)(1) of this section utilizing an appropriate load factor for each load. A record of the analysis must be retained.

(5) Generators and motors installed in machinery spaces must be certified to operate in an ambient temperature of 50 °C or be derated, or it can be shown that 40 °C ambient temperature will not be exceeded in these spaces.

(8) Other than excepted vessels, each towing vessel must be arranged so that the following essential loads can be energized from two independent sources of electricity: (i) High bilge level alarm (ii) Emergency egress lighting, unless the requirements of § 143.410(b)(1) or (2) are met; (iii) Navigation lights; (iv) Pilothouse lighting; (v) Engine room lighting; (vi) Any installed radios and navigation equipment as required by §§

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140.715 and 140.725; (vii) All distress alerting communications equipment listed in §§ 140.715 and 140.725; (viii) Any installed fire detection system; and (ix) Any essential system identified by the cognizant OCMI or TPO.

(9) If a battery is used as the second source of electricity required by paragraph (b)(8), it must be capable of supplying the loads for at least three hours. There must be a means to monitor the condition of the battery.

143.560 Electrical distribution panels and switchboards.

(b) Each switchboard accessible from the rear must be constructed to prevent a person's accidental contact with energized parts.

(c) Nonconductive mats or grating must be provided on the deck in front of each switchboard and, if it is accessible from the rear, on the deck behind the switchboard.

143.565 Electrical over current protection other than generators and motors.

(5) On a towing vessel, other than an excepted vessel as defined in § 136.110, essential systems and non-essential systems must not be on the same circuit or share the same over current protective device.

143.570 Electrical grounding and ground detection.

(a) An ungrounded distribution system must be provided with a ground detection system located at the main switchboard or distribution panel that provides continuous indication of circuit status to ground, with a provision to temporarily remove the indicating device from the reference ground.

(g) Cable armor may not be used to ground electrical equipment or systems.

(i) In a grounded distribution system, only grounded, three-prong appliances may be used. This does not apply to double-insulated appliances or tools and appliances of 50 volts or less.

143.575 Electrical conductors, connections, and equipment.

(2) Cable hangers for overhead and vertical cable runs must be installed with metal supports and retention devices at least every 48 inches.

Twist-on type of connectors may not be used for making joints in cables, facilitating a conductor splice, or extending the length of a circuit.

(b) Extension cords must not be used as a permanent connection to a source of electrical power.

143.580 Alternative electrical installations.

143.585 General requirements for propulsion, steering, and related controls on vessels that move tank barges carrying oil or hazardous material in bulk.

(a) There must be an alternate means to control the propulsion and steering system which must:

(1) Be independent of the primary control required by § 143.225;

(2) Be located at or near the propulsion and steering equipment; and

(3) Be readily accessible and suitable for prolonged operation.

(b) There must be a means to communicate between each operating station and the alternate controls.

(c) There must be a means to stop each propulsion engine and steering motor from each operating station.

(d) The means to monitor the amount of thrust, rudder angle, and if applicable, direction (ahead or astern) of thrust must be independent of the controls required by § 143.225.

143.590 Propulsor redundancy on vessels that move tank barges carrying oil or hazardous material in bulk.

143.595 Vessels with one propulsor that move tank barges carrying oil or hazardous material in bulk.

(a) A towing vessel must have independent, duplicate vital auxiliaries.

143.600 Alternative standards for vessels that move tank barges carrying oil or hazardous material in bulk.

143.605 Demonstration of compliance on vessels that move tank barges carrying oil or hazardous material in bulk.

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144.100 Purpose.

144.105 Applicability and delayed implementation.

(a) An existing towing vessel must comply with § 144.320 starting 20 July 2016 and it must comply with the other applicable requirements in this part no later than either July 20, 2018 or the date the vessel obtains a Certificate of Inspection (COI), whichever date is earlier.

(c) Alterations or modifications made to the structure or arrangements of an existing vessel that are a major conversion, made on or after the 20 July 2016 must comply with the regulations applied to a new towing vessel of this part insofar as is reasonable and practicable.

144.120 A classed vessel.

144.125 A vessel with a load line.

144.130 A vessel built to the International Convention for the Safety of Life at Sea, 1974, as amended, requirements.

144.135 Verification of compliance with design standards.

144.140 Qualifications.

144.145 Procedures for verification of compliance with design standards.

(b) Verification of compliance with design standards must be based on objective evidence of compliance with the applicable requirements and include:

(d) A copy of the verified plan must be provided to the cognizant Officer in Charge, Marine Inspection (OCMI) and the third-party organization (TPO) conducting the surveys, if applicable, except as provided in paragraph (e) of this section.

(10) Lines and offsets, curves of form, cross curves of stability, tank capacities including size and location on vessel, and other stability documents needed to show compliance;

144.155 Verification of compliance with design standards for a sister vessel.

144.160 Marking.

(c) A vessel complying with either § 144.300(a) or § 144.305 must have draft marks that meet the requirements of § 97.40-10 of this chapter.

Subpart B-Structure

144.200 Structural standards for an existing vessel.

(b) The vessel has been in satisfactory service insofar as structural adequacy is concerned and does not cause the structure of the vessel to be questioned by either the OCMI, or TPO engaged to perform an audit or survey.

144.205 Structural standards for a new vessel.

144.215 Special consideration.

Subpart C-Stability and Watertight Integrity

144.300 Stability standards for an existing vessel.

(b) The owner or managing operator of an existing vessel not operating under a stability document must be able to show at least one of the following:

(1) The vessel's operation or a history of satisfactory service does not cause the stability of the vessel to be questioned by either the Coast Guard or a TPO engaged to perform an audit or survey.

(2) The vessel performs successfully on operational tests to determine whether the vessel has adequate stability and handling characteristics.

(3) The vessel has a satisfactory stability assessment by means of giving due consideration to each item that impacts a vessel's stability characteristics which include, but are not limited to, the form, arrangement, construction, number of decks, route, and operating restrictions of the vessel.

144.305 Stability standards for a new vessel.

144.310 Lifting requirements for a new vessel.

144.315 Weight and moment history requirements for a vessel with approved lightweight characteristics.

144.320 Watertight or weathertight integrity.

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(a) Each vessel fitted with installed bulwarks around the exterior of the main deck must have sufficient freeing ports or scuppers or a combination of freeing ports and scuppers to allow water to run off the deck quickly without adversely affecting the stability of the vessel. *This provision is applicable 20 June 2016.*

144.330 Review of a vessel's watertight and weathertight integrity.

Subpart D-Fire Protection

144.400 Applicability.

144.405 Fire hazards to be minimized.

144.410 Separation of machinery and fuel tank spaces from accommodation spaces.

144.415 Combustibles insulated from heated surfaces.

144.425 Waste receptacles.

144.430 Mattresses.

Subpart E-Emergency Escape

144.500 Means of escape.

Where practicable and except as provided in § 144.515, each space where crew may be quartered or normally employed must have at least two means of escape.

144.505 Location of escapes.

144.510 Window as a means of escape.

144.515 One means of escape required.

Subpart F-Ventilation

144.600 Ventilation for accommodations.

144.605 Means to stop fans and close openings.

Means must be provided for stopping each fan in a ventilation system serving machinery spaces and for closing, in case of fire, each doorway, ventilator, and annular space around funnels and other openings into such spaces.

144.610 Ventilation in a vessel more than 65 feet in length.

Subpart G-Crew Spaces

144.700 General requirements.

144.710 Overnight accommodations.

144.720 Crew rest consideration.

Subpart H-Rails and Guards

144.800 Handrails and bulwarks.

144.810 Storm rails.

144.820 Guards in dangerous places.

144.830 Protection against hot piping.

Subpart I-Visibility

144.905 Operating station visibility.

144.920 Window or portlight strength in a new vessel.

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